**CALCULATOR STUFF**

**Percentages (Z):**

Confidence Interval = 1 prop Z Int

Test of Significance = 1 prop Z test

**Averages (t):**

Confidence Interval = T-Interval

Test of Significance = T-Test

**EXAMPLES:**

1. Airlines now charge more money for luggage over 50lbs. They do this because they claim that people have luggage that is on average 50 lbs. We want to see if people tend to have luggage that is heavier than 50 lbs. We take a random sample of 62 pieces of luggage and find a mean weight of 52.8 and a standard deviation of 3.2 lbs. Test the claim at the 0.05 level of significance.
2. Using the data in the previous problem, create a 90% confidence interval & interpret.
3. The Admissions Office at a large University wants to see what the average IQ score is for their class of incoming freshman. They take a random sample of 54 incoming freshman and find the average IQ score is 112 points with a standard deviation of 15 points. Create and interpret a 98% confidence interval.
4. The director of the Admissions office in the previous problem claimed to parents of incoming freshman that their students had an average IQ score of 125 points. We think he is over-exaggerating the IQ score of the students. Test his claim (whether the average is actually lower than he claims).
5. A recent random sample of 1100 teenagers was asked if they play online video games. 775 answered yes. Construct a 95% confidence interval for the true percent of teenagers who play online video games.
6. A random sample of 1500 American adults asked about attitudes towards alternative medicine (acupuncture, massage therapy, herbal therapy, etc.). 660 people in the sample said they would use alternative medicine if traditional medicine was not working for them. An article in the Journal of Modern Medicine had claimed that only 1/3 of adults would use alternative medicine. Does the sample provide evidence that the percent is actually higher than the Journal thinks? Use a significance level of 0.01.

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